



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------------------|-------------|----------------------|---------------------|------------------|
| 10/607,948 | 06/27/2003 | Marcus W. May | SIG000096 | 3074 |
| 34399 | 7590 | 10/11/2006 | EXAMINER | |
| GARLICK HARRISON & MARKISON | | | PARRIES, DRU M | |
| P.O. BOX 160727 | | | | |
| AUSTIN, TX 78716-0727 | | | ART UNIT | PAPER NUMBER |
| | | | 2836 | |

DATE MAILED: 10/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/607,948

Applicant(s)

MAY, MARCUS W.

Examiner

Dru M. Parries

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 16-19, 21, 22 and 31-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-19, 21 and 22 is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 31-34 and 36 is/are rejected.
- 7) ☒ Claim(s) 5 and 35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-4, 6, 31-34 and 36 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4 and 31-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aldous (5,650,669), Mengelt et al. (5,579,197), and Oh (2002/0065618). Aldous teaches a power management system comprising a microprocessor (22; i.e. mixed signal circuitry, digital interface circuitry and processing core combined) that inputs (lines 44, 60, 64, 72) and outputs (lines 42, 58, 70) analog signals and internally converts the input analog signals to digital and converts the digital signals back to analog to output them (inherent). He also teaches a first DC-DC converter (24) operable to convert DC power from source (32) comprising a DC power output from a personal computer into a supply voltage, and a second DC-DC converter (26, 48, 50) operable to convert an alternate power source (34) into a supply voltage (line 46), which is provided to the microprocessor (via line 64). He teaches the microprocessor to detect the presence of the alternate source, and when it is detected, he teaches disabling a first control loop of the first DC-DC converter and enabling a second control loop of the second DC-DC converter (Col. 8, lines 36-38; Col. 9, lines 45-52). He also teaches that when the presence of the alternate

Art Unit: 2836

power source is not detected to enable the first control loop and disable the second control loop (Col. 9, lines 52-58). He goes on to teach enabling the second control loop by adjusting a regulation voltage (input to microprocessor from line 60) for the second DC-DC converter from a disabled voltage to an active voltage (voltage sensing that alt. source 34 went from inactive to active), and inherently comparing that regulation voltage to a reference voltage inside the microprocessor to produce a regulation signal (line 58 to turn on FET 52 of DC-DC converter 26). He also teaches disabling the second control loop by adjusting the regulation voltage from an active to an inactive voltage, which in turn will turn off FET 52. Aldous fails to explicitly teach exactly how the presence of the alternative power source is detected. Mengelt teaches a system where when the power source (20; alt. power source) is restored; the source is detected when it is compared favorably to the supply voltage (i.e. the voltage from inverter 56), and then the inverter is disabled and power is supplied to the load via power source (20) (Abstract; Fig. 3). It would have been obvious to one of ordinary skill in the art at the time of the invention to implement Mengelt's method into Aldous' invention (i.e. have the microprocessor compare the voltage at the node connected to line 60 with the supply voltage connected to line 64) since Aldous wasn't explicit as to how he detected the presence of an alternate power source and Mengelt teaches a reliable way. He also fails to explicitly teach that the DC power from the computer is from a battery and the battery is coupled via an external inductor to an integrated circuit pad. Oh teaches a DC output power from a computer being provided by a battery ([0005], lines 3-5). It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the power management system of Aldous to use batteries as taught by Oh because Aldous does not disclose what the source is and Oh teaches that batteries are a well

Art Unit: 2836

known source for supplying electrical equipment with power. It also would have been obvious to one of ordinary skill in the art at the time of the invention to have module (20) of Aldous be made up of a plurality of integrated circuits, as stated in Admitted Prior Art; and to have the inductor (38) be external to one of those integrated circuit pads, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70, and since it is known in the art that integrated circuits are used in a wide variety of electronic equipment including portable or handheld devices (i.e. radios).

4. Claims 6 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aldous (5,650,669), Mengelt et al. (5,579,197), and Oh (2002/0065618) as applied to claims 1 and 31 above, and further in view of Pascucci et al. (5,768,115). Aldous, Mengelt and Oh teach a power management system as described above. Aldous also teaches monitoring, by the first control loop, the supply voltage produced by the second DC-DC converter (via line 64). Aldous fails to teach generating a valid supply voltage indication when a near steady-state condition has been reached. Pascucci teaches generating a valid supply voltage indication when a steady-state condition has been reached (Col. 2, lines 25-29). It would have been obvious to one of ordinary skill in the art at the time of the invention to generate this indication signal so that the circuit can respond accordingly and operate under normal conditions.

Allowable Subject Matter

5. Claims 16-19 and 21-22 are allowed.

6. Claims 5 and 35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

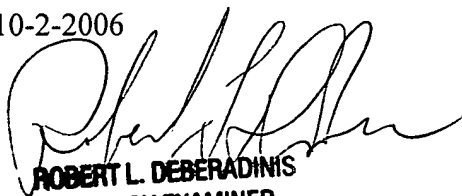
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dru M. Parries whose telephone number is (571) 272-8542. The examiner can normally be reached on Monday -Thursday from 8:00am to 5:00pm. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus, can be reached on 571-272-2800 x 36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DMP

10-2-2006


ROBERT L. DEBERADINIS
PRIMARY EXAMINER